

REMARKS

The Office Action dated December 12, 2006, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 9, 17, and 25 have been amended to more particularly point out and distinctly claims the subject matter which is the invention. Claims 1-26 are pending for consideration, of which claims 1, 2, 6, 9, 10, 14, 17, 18, 22 and 26 are independent. Claims 2, 5-7, 10, 13-15, 18, 21-23, and 26 are allowed. No new matter has been added.

As a preliminary matter, Applicant has amended claim 25 to further recite “performing the Doppler frequency compensation for the selected cells, if there are cells for user terminals located in a predetermined location”. This amended feature is also found in the allowed parallel independent claims 6, 14, and 22. Hence, by the amendment, claim 25 should also be allowable, and Applicant respectfully requests the Examiner to also allow independent claim 25 for the same reason for the allowance of parallel independent claims 6, 14, and 22.

On page 2 of the Office Action, claims 1, 3, 9, 11, 17, 19, and 25 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chizhik et al. (U.S. Patent Application Publication No. 2004/0203395 – hereinafter Chizhik). Applicant respectfully traverse the rejection at least for the reasons provided below.

Independent claim 1, upon which claims 3, 4, and 8 are dependent, is directed to a method for compensating Doppler shift in a telecommunication system, where at least

one user terminal is moving in relation to a network element. The method includes measuring a received uplink signal, estimating an amount of Doppler frequency compensation for at least one downlink signal related to a user terminal based upon a measured received uplink signal, and compensating a Doppler shift for at least one downlink signal related to the user terminal by shifting a frequency of the signal according to the estimated amount of Doppler frequency compensation, wherein the estimation of Doppler frequency compensation utilizes information on system geometry.

Independent claim 9, upon which claims 11, 12, and 16 are dependent, is directed to a data transmission system for compensating Doppler shift in a telecommunication system in which system at least one user terminal is moving in relation to a network element. Independent claim 9 is a system claim that recites similar features as method claim 1.

Independent claim 17, upon which claims 19, 20, and 24 are dependent, is directed to a network element that includes the recitations of similar features as method claim 1.

Independent claim 25 is directed to a data transmission system that recites similar features as allowed independent claims 6, 14, and 22. The data transmission includes a measuring unit configured to measure a received uplink signal, an estimating unit configured to estimate an amount of Doppler frequency compensation for at least one downlink signal related to a user terminal based upon the measured received uplink signal, a compensating unit configured to compensate a Doppler shift for at least one downlink signal related to the user terminal by shifting the frequency of the signal

according the estimated amount of Doppler frequency compensation, and a performing unit configured to perform the Doppler frequency compensation for the selected cells, if there are cells for user terminals located in a predetermined location.

As shown above, independent claims 1, 9, and 17 now recite the features found in their respective dependent claims 4, 12, and 20. In other words, claims 1, 9, and 17 additionally recite “wherein the estimation of Doppler frequency compensation utilizes information on system geometry”. Applicant respectfully asserts that this additional recitation is an allowable feature found in allowed claims 5, 13, and 21. Hence, independent claims 1, 9, and 17, as well as their respective dependent claims, are now also in condition for allowance.

Consequent to the amendment of claims 1, 9, and 17, dependent claims 4, 12, and 20 have been cancelled accordingly.

On page 3 of the Office Action, claims 4, 8, 12, 16, 20, and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chizhik in view of Geier (U.S. Patent No. 5,525,998 – hereinafter Geier). In response, Applicant respectfully traverses the rejection for the reasons provided below.

Claims 1, 9, and 17 now recite the allowable features directed to utilizing information on system geometry, as previously recited in their respective dependent claims 8, 16, and 24, and as also recited in allowable claims 5 and 13. Independent claims 1, 9, and 17 should also be allowable, as set forth above in relation to the arguments against the §102(b) rejection of claims 1, 3, 9, 11, 17, 19, and 25 above.

Notwithstanding the amendment to the claims above, Applicant respectfully submit that the obviousness rejection over Chizhik and Geier is improper for the following reasons.

Geier discloses an odometer assisted GPS navigation method, which is illustrated in, e.g., Fig. 2 of Geier. The figure illustrates a speed filter 30, Doppler compensation filter 40, heading filter 50, and position filter 60 which are configured to supplement GPS satellite signal data with direct odometer data for a moving vehicle. However, Applicant respectfully assert that it is improper to combine Chizhik and Geier to yield the claimed invention in the field of data transmission method and system, because Chizhik is directed to slowing the observed rate of channel fluctuations in a multiple antenna system, while Geier is merely directed to using odometer data to attempt to fill gaps in GPS triangulation data. Therefore, a person skilled in the art in multiple antenna systems would not seek the teachings of an unrelated field of odometer-assisted GPS navigation system of Geier.

As discussed above, Chizhik and Geier, combined or separately, fail to teach, disclose, or suggest all of the features as recited in the pending claims. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the pending obviousness rejection over 1, 3, 4, 8, 9, 11, 12, 16, 17, 19, 20, 24, and 25.

In view of the above, Applicant respectfully submits that each of the claims 1-26 recites subject matter which neither disclosed nor suggested in the cited reference to

Chizhik and Geier. It is therefore respectfully requested that these pending rejections be withdrawn, and this application pass to issue with the allowance of pending claims 1-26.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Luan C. Do
Registration No. 38,434

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

LCD:kwz

Enclosures: Petition for Extension of Time